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BY

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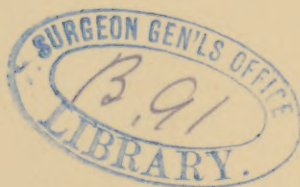
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## ON SOME POINTS IN CONNECTION WITH THE TREATMENT OF STERILITY.

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*Chicago, Ill.*

THE desire for offspring is unquestionably one of the most powerful instincts that actuate the human breast; and, so long as this continues to be so, the subject of sterility will command the attention that has always been accorded to it, notwithstanding all that has been, or may hereafter be said or written upon it.

As gynecologists we should be particularly interested in this important subject; for it is to us, in this special capacity, that woman, filled with holy aspirations for maternity, will appeal for aid in her longings.

Intelligent women no longer rely upon the use of charms, amulets, or other outgrowths of an ignorant superstition, for the cure of their barrenness, as was formerly the case even among the highest classes in countries of the most advanced civilization. As a result of the progress of scientific inquiry and research, the veil of mystery which once obscured this subject is being removed, and the physician, instead of the seer and fortune-teller, is now the one who is most frequently consulted in reference to the removal of the only drawback, possibly, to the happiness of many husbands and wives, namely, the lack of children.

But, while modern investigation has done much to throw light upon the physiology and pathology of conception, our knowledge of the subject is still lamentably vague and imperfect. Life, from its inception to its close, in all its processes, all its manifestations, is a succession of mysteries; and, despite the fact that the embryologist with his micro-

scope has penetrated as far as it seems possible to go, he has not yet been able to solve the problems involved in the creation of each new being. Doubtless, this will ever be so. Science, being human, can never attain perfection. Revelation only is perfect. It is man's mission to be ever learning and never knowing ; to be always seeking for the truth, but, in this life, at least, never to find it.

As regards the subjects of conception and generation, there is much of which we are ignorant. We do not know, for example, why it is that, in some cases pregnancy should occur only after many years of unfruitful married life ;<sup>1</sup> why some women should conceive with more or less regularity every fifteen or eighteen months, and others only at intervals of four or five years ; why thousands of sexual connections should be barren, and a single one under apparently similar circumstances, be fruitful ; why a man and woman living together for years without issue should, when otherwise mated, each be fertile. All these, and many similar questions, pressing themselves upon us for solution, are yet unsolved. Utterly ignorant are we also of the possible pathological changes of the semen and ovum, and of the influence which such changes may exert upon their productiveness. The morbid states of the ovaries which may affect the fertility of the ovum are, without doubt, very numerous, but we know little of them. Unless they produce increase in the size of these organs they are hardly amenable either to our means of investigation or treatment. So, too, the various derangements of the Fallopian tubes, which interfere with the reception or transmission of the ovum, are generally unrecognizable during life, although their frequency is abundantly demonstrated by post mortem examinations.

Some of the foregoing problems are explainable perhaps by the fact (as I believe it to be), that, just as every men-

<sup>1</sup> The author knows of one instance in which the first pregnancy took place at the age of thirty-seven years, the subject having been married at seventeen, and lived with her husband the entire period, — twenty years.



strual period is not preceded or accompanied by ovulation, so, likewise, every act of ovulation does not result in the extrusion of an ovule that is capable of impregnation. Others, again, may be attributable to physiological incompatibility, etc. These, however, are to be regarded only as hypotheses which may or may not be true.

While disclaiming any power of illumining this subject, and without having any new facts or opinions to offer, I yet desire to record a few observations, which may be useful if only as confirmatory of the views of others.

The treatment of the sterile condition has always been notoriously unsatisfactory; and, any one who has had much experience in its management knows that the number of failures far exceeds that of the cures. This result depends upon many causes, — some known and some unknown, some remediable and some irremediable.

I purpose considering some of the circumstances which have conduced to render treatment unsuccessful, and to make some suggestions whereby I believe success may be more certain.

The frequency of failure in the treatment of sterility arises chiefly from the following:—

1. Our defective knowledge of the vital processes concerned in conception and gestation.
2. The frequent presence of disease of the ovaries, Fallopian tubes, and surrounding tissues, preventing healthy ovulation and the transmission of the ovule.
3. Too great reliance upon an exclusively mechanical and surgical treatment.
4. Disease of the uterus disqualifying that organ for performing its work of retaining and developing the fetus.
5. Want of persistence in treatment.

Inasmuch as I design that my remarks shall be wholly practical, I will not do more than merely allude to the first two of these. Because, as to the first, it is obvious that our imperfection of knowledge can only be removed by future patient research; and, as to the second, the hidden abnormalities of the ovaries, Fallopian tubes, pelvic cellular tissue, etc., are beyond the reach of our remedies.

Limiting myself, therefore, to the consideration of the three last enumerated causes of non-success, I will first endeavor to show that it has been customary to place

TOO GREAT RELIANCE UPON AN EXCLUSIVELY MECHANICAL  
TREATMENT.

In order that fecundation should occur, the following conditions must be complied with: Spermatic fluid containing living spermatozoa must be placed in the vagina; this is the act of the male. On the part of the female, the vagina must be capable of receiving and retaining the semen, a portion of which must enter through the os uteri and cervical canal into the cavity of the uterus; either here (as some claim), or in the Fallopian tube, or on the surface of the ovary, it must come in contact with an ovule capable of being fertilized.

Other conditions *may* be necessary, but we know that those enumerated are absolutely indispensable. To enable the impregnated germ to become developed into a new being there are other requirements. If conception have occurred at some point beyond the uterus,—as it doubtless commonly does,—the ovum must be transmitted by the oviduct to that organ, which, in all its parts, must be in a suitable state to afford it proper lodgment and nourishment; otherwise, either the ovum must perish or the gestation be extra-uterine.

When we consider how much of this complicated process is wholly mechanical, it does not seem surprising that mechanical means should be so largely resorted to for the relief of those cases of sterility in which some obstacle of a physical character seems to be present.

The medical profession has been greatly influenced in this matter by the brilliant example and fascinating writings of our distinguished countryman and Fellow, Dr. J. Marion Sims, who, adopting an almost wholly mechanical theory of sterility, advocated and practiced the most radical mechanical and surgical means for its cure. While I fully appreciate his great genius and skill, I nevertheless feel convinced

that his teachings have been fraught with incalculable mischief. He showed with what facility and safety a womb could be split, dragged from, or pushed into its proper position, polypi removed from its interior, imbedded tumors enucleated from its walls; and, straightway every tyro throughout the country began to emulate these bold feats, with the result of producing an amount of uterine deformity and incapacity, ruined health and loss of life, sufficient to fully offset all the good that has been accomplished by Sims himself, and his more skillful and prudent disciples.

There is one error which is almost universally committed in the treatment of barrenness. I allude to the ignoring of the male element. It is obviously neither scientific nor just to assume, in every case of unfruitful marriage, that the fault lies with the woman, and yet this is nearly always done, with the result usually of subjecting her to a painful course of what may be unnecessary local treatment; or, still worse, to a possibly dangerous surgical operation.

It is well known that from various malformations on the part of the male, the semen may not enter the vagina; also, that from numerous causes the fluid may not contain living (or any) spermatozoa. Since these deficiencies may be the only bar to the begetting of offspring, it should be our duty in any case of sterility *in which the cause is not manifestly referable to the woman*, to satisfy ourselves at the outset upon these points, and not defer doing so until all manner of treatment has been vainly exhausted upon her.

But the male organs may be normal and the spermatogenic fluid nothing amiss, and the latter may yet fail to enter the vagina from a variety of causes on the part of the female. Thus, the hymen may be imperforate, or so dense as to continue unbroken, or so lax in texture as to yield without rupture; or, the vagina may be congenitally too small or closed, or its walls may be adherent, as the result of inflammation, or contracted by cicatrices; its calibre may be lessened or obstructed by tumors or other adventitious bodies.

The semen may be deposited in the vagina, and be unable to enter the uterus. This may arise from the vagina forming



a mere cul-de-sac and not communicating with the uterus; the uterus may be closed either congenitally or as the result of disease, or it may be obstructed by the presence of a tumor or polypus; or, being pervious, the opening may be so small as to present great difficulty to the ingress of any fluid.

It is plain that all such conditions as the foregoing (and many others might be added to the list) can only be overcome by surgical means; indeed, any other than operative measures would be wholly useless. And the mere removal of the obstructing cause may be, and commonly is sufficient. But there are other conditions which equally demand instrumental treatment but which need something more, — conditions in which operative means cannot and should not be relied upon. Among these, I include, prominently, the flexions and displacements of the uterus.

(A.) *Uterine Flexions.* A flexed condition of the uterus, if of considerable degree, is frequently, perhaps usually, a cause of sterility, but certainly not always so. I have known a number of instances in which pregnancy took place notwithstanding the existence of a very pronounced flexion. Such a case came under my notice quite recently. Mrs. T., twenty-eight years of age, had always suffered from dysmenorrhea of so severe a character as to compel her to lie in bed four or five days each month. The pain was dependent apparently upon the presence of an anteflexion so acute as to prevent the introduction of a sound. She married, and without having undergone any local treatment whatever, conceived during the second month afterwards.

It is well known that the amount of dysmenorrhea in any case accompanied by flexion, is not a reliable criterion as to the degree of uterine abnormality. For, while a very sharp flexion which tightly closes the uterine canal is very certain to be attended by severe menstrual pain, it is equally true that as great an amount of suffering may accompany a much slighter bending. In some cases of exaggerated flexion the sound may be passed without much difficulty, because of the uterine walls being yielding and readily



separable; and where this state of things is found, neither dysmenorrhea nor sterility is necessarily a result of the abnormal form of the uterus. Where, however, the sound can be passed only with difficulty, or not at all, both dysmenorrhea and sterility are quite sure to persist; and yet the case of Mrs. T., just referred to, shows that even in such a case the barrenness is not absolute.

I incline to the belief that a contracted state, either of the os uteri or cervical canal, is much more likely to cause dysmenorrhea than sterility; for there are very many instances in which the narrowing has been removed by discission, or otherwise, with the effect of promptly relieving the menstrual pain, but leaving the woman sterile, thus showing that some other cause or causes of the infertility than the mere narrowing of the canal remained. Everybody finds it difficult to understand how a cervical canal which is sufficiently patulous to give egress to the menstrual fluid, even with pain, can be too small to permit the entrance and transmission of spermatozoa which are so minute as to be invisible to the unaided sight. It is true that clinical experience has seemed to demonstrate that the efficient enlargement of the abnormally small passage has been quickly followed by conception. This result has occurred so often, indeed, as to leave no doubt in the minds of many as to the curative influence of the measures employed. The conclusion is correct, and yet I fancy there is a fallacy in the process of reasoning by which it is reached.

While sterility has been frequently cured in this way, the treatment in question has far oftener failed,—failed because it did not remove some other condition than the narrowing of the passage, and which, quite possibly, was the really efficient factor in the production of the barrenness. It must be remembered that the surgical means used for dilating a constricted cervical canal, whether it be done by cutting or stretching instruments, do something more than merely cut and stretch. They make a very profound impression, indeed, not only upon the parts directly invaded, but also upon the rest of the uterus, extending sometimes

even to the neighboring organs. And I have no doubt that long-standing congestions and inflammations, — conditions which have prevented the uterus from properly receiving and providing for the ovum, — have been thus removed, especially when the dilatation has been accomplished by the use of cutting instruments. I still further believe that it is because the diseased conditions named, or similar ones, are not usually so removed by the operations referred to, that sterility is not more frequently cured by their employment.

There is still another reason why the operative means used for the enlargement of the cervical canal, whether the contracted state arises from flexion or otherwise, so often fail, namely, that they are sometimes overdone. Indeed, this is an error difficult to guard against. It requires much discrimination on the part of the operator to enable him to determine just how much ought to be done in these cases ; how much on the one hand is necessary to maintain sufficient patency of the canal, and on the other to avoid subsequent abnormal enlargement. What may seem at the time to be a very free incision, for example, may in a few weeks unite again so completely as to leave the passage as small as before, thus necessitating a repetition of the operation. But I have seen this result so thoroughly guarded against as to leave the channel excessively patulous, two cases having come under my observation in which the womb had been bilaterally incised to so great an extent that a permanent gaping of the os remained, just as occurs after bad cases of cervical laceration during parturition ; a condition which, besides producing many distressing symptoms, is as certain to entail sterility as the narrowing of the part for which the operation had been made.

So, too, with forcible dilatation. While I have never seen the cervical canal remain too patulous for more than a few weeks after this procedure, it is easy to see that much mischief may be done by it in unskillful hands. If we consider the great amount of bruising which must occur when the uterine canal, which is barely large enough to admit a

probe, and surrounded by thick dense walls, is stretched out in a period of ten to fifteen minutes to an extent sufficient to permit the introduction of the finger, it is not difficult to foresee that pelvic inflammations may easily be lighted up unless the utmost precautions be taken, and suitable cases selected for the treatment.

I do not wish to be understood as at all discountenancing these operations. On the contrary, I regard them as indispensable — in some cases. What I want to urge is that they are not always necessary; that where they are necessary they are not always sufficient; in short, that we have erred in attaching too great importance to the mechanical element in the causation of sterility, and, consequently, to the means used for its removal.

(b.) *Uterine Displacements.* — It is generally thought that of all the mechanical causes of sterility, the various displacements of the uterus are much the most frequent. Of these, retroversion and anteversion form the great bulk, prolapsus being comparatively infrequent, and even when present, not likely, *per se*, to prevent conception. Even the versions of the uterus are not necessarily productive of infertility. They may constitute a difficulty in the way of impregnation, but nothing more, and they only do this when the os uteri is pressed against the vaginal wall, or carried far from its normal position. That these malpositions are, however, sometimes the only causal elements of the sterility, is shown clinically by the success which occasionally follows the replacement of the organ and its retention in proper position by means of pessaries. But, here, too, just as in the case of flexions, these mechanical devices are only exceptionally successful. In the great majority of cases they fail. Why? Because nine tenths, perhaps, of all chronic uterine displacements are complicated with chronic uterine disease, which the mere replacement of the organ is inadequate to remove. Practically, it does not matter, so far as the therapeutics of these co-existent conditions are concerned, whether the inflammation, or hypertrophy (or whatever the disease may be), or the malposition,



have appeared first, — which is the cause and which the effect. We find them together, and both must be cured. Usually they must be cured simultaneously if at all; for curing one does not, unless exceptionally, cure the other. And just here we have, as I believe, the fundamental fact which explains why mechanical treatment alone so often fails to remedy the sterile condition. A displacement or a flexion is rectified, it may be, but an endometritis which co-exists, and which is the potent factor of causation, is not removed and so the sterility remains. Not only this: from the persistence of the inflammation the displacement or deformity itself is likely to return. Hence, while we cannot discard the pessary, and while, by its use, great amelioration of the patient's symptoms may be effected; and while, still further, the mere replacement of the uterus may sometimes be sufficient to restore the organ to a healthy state, we cannot rely upon this latter result. So, when sterility complicates displacement, we must expect to find disease also, and this latter, as well as the malposition, must be removed if we would cure the barren condition.

#### FREQUENCY OF UTERINE DISEASE.

From what has already been said, it will be inferred that I attach more importance to the presence of disease in the pelvic organs as a cause of sterility than is perhaps usual. Although the uterus is more frequently the affected organ than any of the others, — and, fortunately, more accessible than some of them, — we must not forget that the ovaries and Fallopian tubes are likewise very often the incapable ones, but they are, as previously stated, beyond our reach. Basing the opinion upon the result of my own observation, I regard inflammation of the womb and its sequelæ as by far the most common causes of barrenness. The disease may affect any part or the whole of the organ, but commonly the lining membrane only is involved. The endometritis produces hypersecretion, and the consequent discharge may be so irritating in character as to destroy the vitality of the spermatozoa. Dr. Sims, and some others,

believe that this is a very frequent cause of sterility. But it seems to me that more importance has been attributed to it than facts warrant. We know that women may conceive when the vagina is constantly bathed with the offensive discharge from carcinoma of the uterus, even when it is so acrid as to cause removal of epithelium and epidermis. It is likewise well known that a continually-leaking vesicovaginal fistula is no bar to conception. Hence, I cannot think that the ordinary catarrhal discharge from the genitals is so very inimical to the life of the spermatozoa as has been supposed. It is true that the suppression, or even the diminution of a leucorrhœal discharge may be quickly followed by impregnation; but this fact does not prove that the presence of the leucorrhœa was the cause of the preceding infertility. For, being only a symptom of structural disease which unfitted the uterus for furnishing a suitable nidus for the germ, the abatement of the discharge was a consequence of removal of the lesion which produced it. Impregnation probably occurs much more frequently in these cases than is supposed, but owing to the defect in the nesting and developmental processes very early abortion habitually takes place. In short, inflammatory disease of the uterus, while not necessarily or usually a hindrance to *conception*, prevents productiveness by interfering with *gestation*; and until this fact is more generally recognized many curable cases of sterility will remain uncured.

There are some cases of barrenness in which no abnormal position or condition of the pelvic organs is manifest, but where only disturbed function is apparent. For example, menstruation may be irregular, scanty, or profuse. In many of these I have no doubt that the unhealthy character of this important process is dependent upon some uterine disease — undiscovered and, possibly, undiscoverable — which unfits the organ for its work of nidation and gestation. These menstrual derangements should therefore always receive consideration, and their presence should prompt to a very careful exploration of the parts.

In the summer of 1876, I was consulted by a lady thirty years of age. Menstruation had always been rather scanty, the periods lasting two or three days. She had been married nine years and had never been pregnant so far as she knew, although during the first year of her married life she had "missed" one period, and this was followed by nausea, headache, and some other evidences of nervous derangement. However, without any treatment the next period came at its regular time, marked only by a somewhat unusually profuse flow. Within the past three years she had grown very stout and plethoric, and the catamenia, although quite regular, had become steadily more scanty, until, finally, the use of a single napkin was sufficient. She attributed her stoutness to the diminished quantity of the discharge, and it was for the purpose of having the latter increased that she sought advice. In reply to a question, she expressed a strong desire for children, but stated that she had long since abandoned all hope of ever having any.

Examination revealed nothing abnormal.

I advised her to take very active exercise, to use a restricted diet, to take mild saline laxative medicines, and recommended the local abstraction of blood.

On the day prior to the expected appearance of the menses, I punctured the uterine cervix deeply, so as to remove two or three tablespoonfuls of blood. The regular discharge appeared within twelve hours, and the quantity passed was more than double that of the period immediately preceding. This operation was repeated just before each menstruation subsequently.

The treatment was continued four months, at the end of which time the weight of the patient was reduced fifteen pounds, and the catamenia had so increased that, at the fourth period, she used five napkins. The fifth failed to appear. Conception had occurred, and was followed in due time by the birth of a healthy girl.

#### WANT OF PERSISTENCE IN TREATMENT.

Doubtless, many cases of barrenness are not cured simply from lack of perseverance, either on the part of the physician or the patient.

Suppose a woman who is sterile and who seeks for relief, is found to have some obvious cause for the condition, for example, a flexed or displaced uterus, a contracted os



uteri, a lacerated or relaxed perineum, etc. The physician, discovering this, concludes that he has found all that is necessary, and announces that a certain surgical procedure is the proper remedy; and he probably assures her, with more or less positiveness, that, this being done, she may expect conception soon to take place. The operation is done. Months and months elapse, but the expected pregnancy does not occur. The patient is disappointed and discouraged. If she should report again, and the physician should, on examination, find no other physical cause for her condition, he advises patience and suggests that in time the desired result may still be hoped for.

By and by she may have courage to seek other counsel. If so, the opinion is perhaps given her that a leucorrheal discharge which is found to be present is fatal to the vitality of the spermatozoa, and treatment for this symptom is instituted. The patient uses her vaginal wash and the doctor applies his nitrate of silver. Again the months pass, — a year or two, possibly, — and still conception does not occur. The woman's patience or purse, or both, are exhausted, and more discouraged than ever she finally ceases her fruitless efforts.

In the foregoing supposititious case, the failure is the result of erroneous views on the part of the physicians. The first one could see and appreciate only a mechanical obstacle to fecundation, and, this being removed, he was at the end of his resources. The second erred in treating a symptom, the leucorrhea, instead of the endometritis that caused it.

On the other hand, many patients who are properly treated for, say a chronic uterine inflammation, cannot be induced to continue treatment sufficiently long, or with sufficient regularity to become wholly cured. They cannot understand the exceedingly unyielding nature of the disease and its tendency to return, for years it may be, and the consequent necessity not only for the long-continued use of remedial means in order to effect a cure, but also for occasional treatment a long time after a cure seems complete.

So, after undergoing treatment awhile and becoming somewhat improved — partly cured but not entirely — they cease their visits, and after a time find themselves relapsing into their former condition, and put the blame on the doctor.

The following case may serve to illustrate the occasional efficacy of perseverance in treatment, and also to show that comparatively simple means will sometimes succeed where elaborate ones have failed : —

Mrs. H., aged thirty-three years, a well-formed woman of medium height, sterile, had been married eleven years. Menstruation commenced at fifteen and had always been regular, painless, and of proper amount ; no leucorrhea ; general health perfect. She was sexually insensitive, and to this circumstance both husband and wife attributed the barrenness. At the end of the second year after marriage a physician was consulted, and for nearly a year she was treated by the administration of aphrodisiac medicines without result. During the succeeding three years she was almost constantly under the care of some physician of some sort, and drugs, baths, electricity, pessaries, etc., were all tried, in the vain hope that her condition might be changed. Finally, she came to me. She appeared to be perfectly well, was remarkably gay and cheerful in manner, and expressed a strong faith that something could yet be done for her.

On examination, I found all the genital organs normal as to development, position, and state, with the single exception that the os uteri was extremely small ; indeed, through the speculum its site was indicated only by a reddish spot no larger than a pin's head. On discovering this I questioned her more particularly in regard to her menstrual periods, when she again assured me that they were unattended by any pain, and that the flow was not at all scanty. I experienced much difficulty in introducing the uterine probe, but after its bulbous extremity had passed the os its subsequent progress to the fundus was perfectly easy. The narrowing was clearly limited to the external opening, the cervical canal and internal os being apparently of normal size.

The explanation of her condition seemed very plain. The thin lips of the os uteri were sufficiently yielding to permit the menstrual discharge to pass out readily, but from their peculiar shape they closed the opening so completely as to make it impossible, without force, for any fluid to enter the uterine canal from the

vagina. The case seemed so simple that I was rash enough to promise speedy relief as the result of a slight operation, explaining to her at the same time the nature of the malformation. My suggestions were at once adopted, and shortly afterwards the os was bilaterally slit *secundum artem*. The operation was followed by the introduction of Atlee's dilator every two days until the withdrawal of the slightly-expanded instrument ceased to be attended by any appearance of blood. It was a failure. In less than three months the parts had returned to their original condition, plus a cicatricial induration at the place of the incision.

A few months afterwards I forcibly dilated the os and lower part of the cervix, — not to the heroic extent sometimes recommended and which I have since practiced in other cases, — but enough to enable me to introduce a No. 24 bougie readily. This also failed. The enlargement effected was only temporary and the parts soon returned to their contracted state.

Chagrined and disappointed, I had nothing further to propose at the time, and, as I subsequently learned, the patient sought other aid.

Some months later, when the courageous and hopeful woman again consulted me and asked whether all resources were exhausted in her case, I told her that if she felt willing to submit once more I would make another trial. Accordingly, a few days after the cessation of her next menstrual flow, I removed a circular rim of tissue with scissors, including the lips of the os uteri and extending a third of an inch into the cervical canal, making a beveled wound such as would be made by the mechanic's tool known as a reamer. The operation was done without anesthesia and caused but little pain. As a precaution against subsequent contraction, I passed a bougie into the cervical canal every third or fourth day until the raw surface was healed. I now believe that this was unnecessary, for there did not appear to be any tendency whatever to undue narrowing, and six weeks after the last introduction of the instrument the os was normally pervious.

At the end of seven months I received a letter from the husband of my patient, who resided out of the city, stating that two menstrual periods had failed to appear, and that they hoped she was pregnant. This hope was realized at last, and the brave woman found her faith and persistence rewarded by the birth of a girl after an easy labor.



## SUMMARY.

In the preceding pages I have endeavored to show that the most frequent causes of failure in the treatment of the sterile condition arise from, —

1. The defective state of our knowledge of the vital processes concerned in conception and gestation.

2. The frequent presence of undetected disease and malformations of the ovaries, Fallopian tubes, and neighboring organs and tissues, which prevent healthy ovulation and the transmission of the ovule to the uterus.

3. The general adoption of a physical theory of sterility, resulting in an undue reliance upon an exclusively mechanical and surgical treatment.

4. Uncured disease of the uterus, which, while not necessarily or usually a bar to impregnation, disqualifies that organ for performing its functions of nidation and gestation.

5. Want of persistence in treatment.



